

Serial No.: 10/812,276
Amdt. dated Aug. 25, 2005
Reply to Office Action of May 18, 2005

Amendments to the Drawings:

The attached seven (7) sheets of drawings include the addition of legends indicating prior art to FIGS. 1-3. The sheets of drawings replace the original sheets including FIGS. 1-7. In FIG. 4, previously omitted reference character 90 has been added and reference character 9 has been deleted.

Attachment: Replacements Sheets (7)

REMARKS/ARGUMENTS

Nine (9) claims remain in the application: claims 1-9.

Claims 1 and 5 have been amended to more clearly define the invention. The present application as originally filed supports these amendments. No new matter has been added.

The Examiner objected to the drawings, stating that FIG. 1 should include a legend indicating that the drawing shows prior art. Amended FIGS. 1-3 now include an appropriate legend indicating prior art. Replacement sheets for FIGS. 1-7 are included.

Claims 1-4 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,851,859 to Rappaport in view of U.S. Patent No. 3,987,456 to Gelin. Applicant respectfully traverses this rejection and requests reconsideration for the following reasons.

Amended claim 1 recites “a discone antenna including a cone-shaped element whose physical shape is at least partially defined by at least one pleat, wherein each pleat includes a vertex having an included angle of less than 180 degrees relative to a principal axis of the cone-shaped element.”

In contrast, Rappaport teaches a conventional discone antenna that includes a tuning cavity. See, Rappaport, col. 2, lines 6-22. Rappaport does not describe or suggest “a discone antenna including a cone-shaped element whose physical shape is at least partially defined by at least one pleat, wherein each pleat includes a vertex having an included angle of less than 180 degrees relative to a principal axis of the cone-shaped element” as recited in amended claim 1.

Gelin teaches a three-part antenna that includes two ring conductors and a pyramidal skirt. See Gelin, col. 2, lines 22-26. Gelin further explains that “each of the faces of skirt is formed by an approximately plane surface 22” and that the surface is “in the form of an isosceles trapezoid.” Gelin, col. 2, lines 37-40. The plane surfaces of Gelin are joined in vertexes that each have an

included angle of greater than 180 degrees relative to the principal or longitudinal axis of the skirt. The plane surfaces 22 shown and described in Gelin do not include a pleat as recited in amended claim 1, which recites “wherein each pleat includes a vertex having an included angle of less than 180 degrees relative to a principal axis of the cone-shaped element.”

Accordingly, neither Rappaport or Gelin, whether considered alone or in combination, disclose or suggest the limitations of amended independent claim 1. As a result, the rejection is without proper basis, and claim 1 is patentable over the cited references. Because claims 2-4 depend from claim 1, they are patentable for at least the same reason. Applicant, therefore, requests reconsideration and withdrawal of the rejection of claims 1-4 under 35 U.S.C. § 103(a).

Claims 5-7 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 3,656,166 to Klopach et al. in view of Gelin. Applicant respectfully traverses this rejection and requests reconsideration for the following reasons.

Amended claim 5 recites “a bicone antenna including two cone-shaped elements whose physical shape is at least partially defined by at least one pleat, wherein each pleat includes a vertex having an included angle of less than 180 degrees relative to a principal axis of the cone-shaped element.”

In contrast, Klopach teaches a conventional biconical dipole antenna that includes “means within the near field of the antenna to couple a portion of the energy of the biconical dipole into the means and re-radiate the energy at a retarded phase with respect to the energy radiated or received by the biconical dipole to achieve circular polarization.” See Klopach, col. 1, lines 26-33.

Because Klopach fails to cure the deficiency of Gelin regarding the included angle of a pleat noted previously, neither of these references, whether considered alone or in combination, disclose or suggest the limitations of amended independent claim 5. Accordingly, the rejection is without proper

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basis, and claim 5 is patentable over the cited references. Because claims 6-7 depend from claim 5, they are patentable for at least the same reason. Applicant, therefore, requests reconsideration and withdrawal of the rejection of claims 5-7 under 35 U.S.C. § 103(a).

Claims 8-9 were rejected under 35 U.S.C. § 102(b) as being anticipated by Rappaport. Applicant respectfully traverses this rejection and requests reconsideration because the Rappaport reference does not teach or suggest “an antenna including a disc-shaped element whose physical shape is at least partially defined by a fractal geometry” as recited in claim 8. Therefore, claim 8 is patentable over Rappaport. Because claim 9 depends from claim 8, it is patentable for at least the same reason. Accordingly, the rejection is without proper basis and should be withdrawn.

Conclusion

In view of the amendments and remarks submitted herein, applicant believes that all claims in the present application are in condition for allowance, and respectfully requests a Notice of Allowance for the application. If a telephone conference will expedite prosecution of the application, the Examiner is invited to telephone the undersigned.

Authorization is hereby given to charge our deposit account, No. 50-1133, sixty dollars (\$60.00) for a one month-extension under 37 C.F.R. § 1.136.

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Respectfully submitted,
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Date: August 25, 2005


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